

**What is claimed is:**

1. An expression system comprising a polynucleotide capable of producing a HSCLOCK polypeptide comprising an amino acid sequence, which has at least 80% identity with the 5 polypeptide of SEQ ID NO:2 when said expression system is present in a compatible host cell.
2. A process for producing a recombinant host cell comprising transforming or transfecting a cell with the expression system of claim 2 such the the host cell, under appropriate culture conditions, produces a polypeptide comprising an amino acid sequence having at least 80% 10 identity to the amino acid sequence of SEQ ID NO:2 over the entire length of SEQ ID NO:2.
3. A recombinant host cell produced by the process of claim 2.
4. A membrane of a recombinant host cell of claim 3 expressing a polypeptide comprising an 15 amino acid sequence having at least 80% identity to the amino acid sequence of SEQ ID NO:2 over the entire length of SEQ ID NO:2.
5. A process for producing a polypeptide comprising culturing a host cell of claim 3 under 20 conditions sufficient for the production of said polypeptide and recovering the polypeptide from the culture.
6. An antibody immunospecific for the HSCLOCK polypeptide.
7. A method for the treatment of a subject:
  - (i) in need of enhanced activity or expression of the HSCLOCK polypeptide comprising:
    - (a) administering to the subject a therapeutically effective amount of an agonist to said polypeptide; and/or
    - (b) providing to the subject an isolated polynucleotide comprising a nucleotide sequence encoding said polypeptide in a form so as to effect production of said 30 polypeptide activity *in vivo*.; or
  - (ii) having need to inhibit activity or expression of the polypeptide comprising:
    - (a) administering to the subject a therapeutically effective amount of an antagonist to said polypeptide; and/or
    - (b) administering to the subject a nucleic acid molecule that inhibits the 35 expression of a nucleotide sequence encoding said polypeptide; and/or

- (c) administering to the subject a therapeutically effective amount of a polypeptide that competes with said polypeptide for its ligand, substrate, or receptor.
8. A process for diagnosing a disease or a susceptibility to a disease in a subject related to expression or activity of the HSCLOCK polypeptide in a subject comprising:
- determining the presence or absence of a mutation in the nucleotide sequence encoding said polypeptide in the genome of said subject; and/or
  - analyzing for the presence or amount of said polypeptide expression in a sample derived from said subject.
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9. A method for screening to identify compounds which stimulate or which inhibit the function of the HSCLOCK polypeptide which comprises a method selected from the group consisting of:
- measuring the binding of a candidate compound to the polypeptide (or to the cells or membranes bearing the polypeptide) or a fusion protein thereof by means of a label directly or indirectly associated with the candidate compound;
  - measuring the binding of a candidate compound to the polypeptide (or to the cells or membranes bearing the polypeptide) or a fusion protein thereof in the presence of a labeled competitor;
  - testing whether the candidate compound results in a signal generated by activation or inhibition of the polypeptide, using detection systems appropriate to the cells or cell membranes bearing the polypeptide;
  - mixing a candidate compound with a solution containing a HSCLOCK polypeptide, to form a mixture, measuring activity of the polypeptide in the mixture, and comparing the activity of the mixture to a standard; or
  - detecting the effect of a candidate compound on the production of mRNA encoding said polypeptide and said polypeptide in cells, using for instance, an ELISA assay.
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10. An agonist or an antagonist of the HSCLOCK polypeptide.